



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,275	02/21/2002	Amardeep Singh	1030-20003	3048

23505 7590 09/23/2004

CONLEY ROSE, P.C.

P. O. BOX 3267

HOUSTON, TX 77253-3267

EXAMINER

DANG, HOANG C

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/081,275

Applicant(s)

SINGH ET AL. 

Examiner

Hoang Dang

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-32, 34-36, 38-52, 65-85, 87 and 89-103 is/are pending in the application.
- 4a) Of the above claim(s)    is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26, 27, 35, 36, 42, 45 and 46 is/are allowed.
- 6) ☐ Claim(s) 23, 25, 28-32, 34, 38-41, 43, 44, 47, 48, 65-76, 78-85, 87 and 89-103 is/are rejected.
- 7) ☒ Claim(s) 24, 49-52 and 77 is/are objected to.
- 8) ☐ Claim(s)        are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on        is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No.       .
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>      </u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                     |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08162004</u> | 6) <input type="checkbox"/> Other: <u>      </u>  |

## DETAILED ACTION

### *Claim Objections*

Claims 67, 68 and 71 are objected to because of the following informalities: As for claims 67 and 68, the expression "said cross-sectional area" in the first line of these claims has no antecedent basis. As for claim 71, the "pin shoulder" has been introduced in intervening claim 70, line 3. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 23, 25, 28-32, 34, 38, 40, 41, 43, 44, 65-71, 73-76, 78-85, 87 and 89-103 are rejected under 35 U.S.C. 102(e) as being anticipated by Zadraba et al (US 6,227,314).

The claimed structure reads exactly on the reference's when the leading edge or surface 25 as shown in Figure 1 is considered as the "mud flow ramp" as recited. This "ramp" 25 comprises at least 3 sections: uppermost straight section, middle straight section and lowermost curved section. The recited "first section" and "second section" do not distinguish from any two of the three sections of the "mud flow ramp" 25 of Zadraba et al.

Regarding the limitation regarding the inserts that are located from "150 degrees to 360 degrees" or "'180 degrees to 360 degrees" around the circumference of the drill bit body,

Art Unit: 3672

Zadrapa et al do suggest locating the inserts within the claimed range. See figure 2 and column 3, lines 25-38 in Zadrapa et al.

As for claim 34, see the "concave section" between the "uppermost section" and the "middle section".

As for claims 67-68, 85, 87 and 89-91, the "junk slot" in Zadrapa et al is defined between trailing surface 27 and leading surface 25. The "cross-sectional area continuously or generally increases along the length of the mud flow ramp as recited.

As for claims 73 and 74, the "middle section" of the mud flow ramp of Zadrapa et al is considered as the "second section" as claimed and the "lowermost portion" of Zadrapa et al is considered as the "first section".

As for claim 76, see the "convex section" between the "lowermost section" and the "middle section" of the mud flow ramp of Zadrapa et al.

As for claims 82, 83, 90, 91 and 100-103, since the term "active" and "non-active" are not defined by these claims. The inserts 23 of Zadrapa can be considered as "active" since they protrude from the bit surface and apparently do some cutting or grinding. They can also be considered as "inactive" since they are slightly under gage diameter.

As for the remaining claims, the claimed structure reads exactly on the reference's.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 3672

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 39, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zadrapa et al '314 in view of Nguyen (US 5,494,123) or Coates (Re 32,495).

Zadrapa et al discloses the invention as claimed except that it is not disclosed that the bit body is conical or the backface of the first leg is tapered. However, it is well known in the art to taper the backface of the legs to facilitate the flow of drilling mud and cuttings as evidenced by Nguyen (see figures 1-2) or Coates (see figures 1 and 2) It would have been obvious to one of ordinary skill in the art at the time the invention was made to taper the backface of the legs of Zadrapa et al's in view of the teaching of Nguyen or Coates for the advantage pointed out above.

6. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zadrapa et al '314.

Zadrapa et al discloses the invention as claimed except that it is not disclosed what should be the "width" thickness for a drill bit of eight and three-quarter inches. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made use a width thickness of one and one half inches as claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

*Allowable Subject Matter*

7. Claims 24, 49-52 and 77 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Claims 26, 27, 35, 36, 42, 45 and 46 are allowed.

*Response to Arguments*

9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 3672

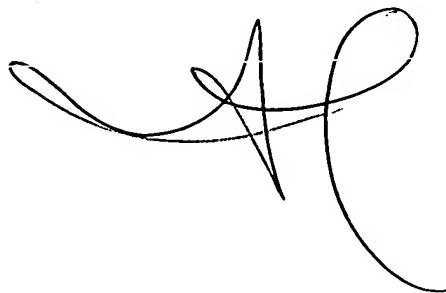
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Dang whose telephone number is 703-308-2149. The examiner can normally be reached on 9:15-5:45 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bagnell can be reached on 703-308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoang Dang  
Primary Examiner  
Art Unit 3672

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the left.